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Correlates of Participation in AIDS Education and HIV Antibody Testing by Methadone Patients

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Synopsis

The authors examined the factors associated with methadone patients' decisions about participating

in a clinic-based AIDS prevention protocol. Despite the offer of incentives, only 27 percent attended AIDS education and only 12 percent obtained voluntary HIV antibody (ab) testing. However, AIDS education was attended by proportionately more of those who were at highest risk for AIDS because of current intravenous drug use. The availability of HIV-ab testing neither encouraged nor discouraged participation in AIDS education.

Patients who were relatively more likely to choose HIV-ab testing were older, had been or were married, had plans to have children, believed the test to be useful, and believed that their counselors support their decision to be tested. Those who declined to be tested were reluctant to confront the emotional aspects of their risk status, were concerned about possible breaches of confidentiality, and doubted the value of testing.

The implications of the findings for implementing AIDS prevention measures in methadone programs are discussed. Programs need either to require attendance at AIDS education or give patients an incentive to attend. HIV-ab testing should be available but should remain voluntary. A stronger medical rationale for testing is developing and may increase future participation. Methadone programs must continue to engage patients actively in AIDS risk reduction efforts.

INTRAVENOUS DRUG USERS are the second largest category of persons at risk for acquired immunodeficiency syndrome (AIDS).

Intravenous drug use was the primary risk factor for 10,627 of the 58,355 adolescents and adults (18 percent) with AIDS reported to the Centers for Disease Control through April 11, 1988. Another 4,325 persons (7 percent) had both intravenous drug use and male homosexual activity as risk factors (1).

Sharing nonsterile drug injection equipment and engaging in unprotected sexual activity are the two major modes of transmission for AIDS among intravenous (IV) drug users. Because IV drug users provide a path of heterosexual transmission for the human immunodeficiency virus (HIV) to the general population, and because children with an IV drug-using parent are at high risk of perinatal infection, steps by public health agencies to control the AIDS epidemic need to include efforts to decrease transmission by intravenous drug users (2).

We describe an AIDS prevention program for heroin addicts in methadone treatment. In the course of implementing the program, we became aware of considerable ambivalence among methadone patients toward aspects of the program. We examine in this paper the factors associated with patients' decisions about participation in a voluntary AIDS education and HIV antibody (ab) testing protocol.

Direct AIDS education and voluntary HIV-ab testing of persons at risk for HIV infection have been recommended by public health authorities, including the Public Health Service (3), as two important means of helping to prevent HIV transmission related to intravenous drug use (4). AIDS education is intended to inform current and former addicts, as well as their sexual partners, about the nature of the disease, how it is contracted and transmitted, and how individuals can protect themselves and others.

The main rationale for offering HIV-ab testing is that addicts who learn that they are seropositive might take greater precautions, both in their drug-using and sexual behaviors, to avoid infecting others. Those who learn they are seronegative might become more motivated to avoid behaviors that could result in infection. However, research evidence for the effectiveness of direct AIDS education or HIV-ab testing in changing drug addicts' behavior is still limited.

The suggestion has been made that informing a

person of the results of an HIV-ab test might have detrimental consequences. For example, a seropositive person might react self-destructively, or with malicious intent to infect others; seronegative persons might increase, or revert to, risk-related behavior, believing they may be immune. Providing pre- and post-test counseling and other support are essential parts of HIV-ab testing.

The first step in implementing an AIDS prevention program is to recruit risk group members, which can be a problem among present or former IV drug users. Given the illegality of drug abuse and the stigma attached to AIDS, many addicts may avoid involvement in formal interventions. Additionally, there may be powerful emotional obstacles to involvement. Like other addicts, IV drug users tend to deny the negative aspects of their addiction and they may wish to avoid reminders of how they are placing themselves and others at risk for a serious disease. Fatalism can play a part when addicts assume they are already infected, and know there is no treatment to prevent or cure the disease.

Methadone treatment programs, with more than 34,000 patients in New York State, can provide a useful institutional setting for involving addicts in AIDS prevention efforts. Although only some persons in methadone programs are active IV drug users, about one-half of the patients in New York City clinics studied are HIV-ab seropositive and thus capable of infecting other persons, at least by sexual or perinatal transmission (5,6). Because of the episodic nature of drug addiction, many methadone patients are susceptible to reversion to AIDS risk-related drug use practices.

AIDS prevention interventions among methadone patients might be effective, because by entering treatment these addicts have already displayed some motivation to help themselves. Working within an existing treatment program environment means addicts do not have to increase their visibility in the community to gain access to prevention efforts. Unfortunately, significant barriers to engaging patients may be encountered. For example, patients might fear that their participation in AIDS prevention, including education and HIV-ab testing, could be perceived by clinic staff members as an indication of active IV drug use.

Some methadone programs have begun formal AIDS education efforts, such as presenting speakers, showing videos, and offering education group sessions (7), but little is known about how successful these efforts are in engaging patients. Discus-

sions with AIDS educators at several New York City methadone clinics, personal experiences at the study clinic, and reports by others (8) indicate that voluntary, scheduled AIDS education classes and discussion groups are poorly attended by patients. It is not clear whether this is attributable to the general reluctance of methadone patients to become involved in voluntary program activities or to a specific avoidance of programs related to AIDS; both factors may contribute.

Differing results have been reported concerning the acceptability to methadone patients of voluntary HIV-ab testing as an AIDS prevention intervention. Participation in voluntary testing was 85 percent (37 out of 46 persons) in a small Minneapolis, MN, Veterans Administration methadone clinic (9), but was only 38 percent (114 out of 300) in a large New Bedford, MA, methadone clinic (8). We will attempt to reconcile these findings with our own results.

Methods

The AIDS prevention program was implemented in two hospital-based methadone maintenance clinics. In keeping with the quasi-experimental evaluation design, participants in one clinic were offered HIV-ab testing as part of the prevention protocol, while participants in the second clinic were not. The data presented are primarily for the first clinic, described subsequently, permitting investigation of the question of the acceptability to methadone patients of voluntary HIV-ab testing.

The Methadone Maintenance Treatment Program at Long Island Jewish Medical Center's Hillside Hospital Division (LIJ) is located in the New York City metropolitan area. We began recruiting patients for the AIDS prevention program in January 1987. All patients in the clinic were invited to participate. The only condition imposed was that interested patients had to participate in the program components in sequence; for example, patients had to attend AIDS education before volunteering for HIV-ab testing. Patients could, however, drop out of the prevention sequence at any time without penalty.

AIDS prevention program. The first part of the AIDS prevention program consisted of 2-hour, small-group, education classes conducted by experienced teachers from the Training Institute of Narcotic and Drug Research, Inc. Each participant was asked to attend one session. In addition to a presentation of standard information about AIDS and

'Patients no longer using drugs intravenously may have a false sense of security, and may not be fully aware of the degree of risk they pose to their sexual partners, and, in the case of women, to their fetuses.'

its transmission, HIV-ab testing was explained fully, including the reasons why high-risk persons might or might not wish to learn their serological status. Education classes were offered, both day and evening, to accommodate employed as well as unemployed patients. Each class was limited to 20 patients, although most were smaller. Nine sessions were conducted during February 1987.

Patients at LIJ who attended an education session were offered the opportunity to have an HIV-ab test in April 1987. Patients wishing to take the test received pre-test counseling from either their own clinic counselors (who had received appropriate training by study staff members), or from the study social worker. Patients' questions about the antibody test and the meaning of different test results were answered during this counseling. Patients were required to demonstrate to the counselor that they understood the nature of the disease and the meaning of both a positive and a negative antibody test result. Those demonstrating highly unstable responses were discouraged from taking the test.

Patients were told that the test results would be sent to the study consulting physician, an AIDS researcher at LIJ, whose physician's assistant would counsel them on their results and provide any needed referrals for appropriate medical or social services. Patients could request that the test results be forwarded to the physician of their choice. Additional post-test supportive counseling was available from the physician's assistant or the study social worker. None of the methadone clinic staff members were to be informed of the test results unless the patient chose to do so personally.

Although the HIV-ab test results were confidential, the testing was not anonymous. Patients were aware that blood specimens would be drawn at the methadone clinic by the study phlebotomist and that there would be no attempt to conceal who volunteered for the test. The intent was to try to destigmatize the test by treating it as a legitimate, useful medical procedure, rather than something dubious that should be conducted secretly. Pa-

'Although women patients and patients who recently injected drugs were over-represented among those attending AIDS education, such patients were not more likely to choose testing. Knowledge about AIDS, sexual practices and time in methadone treatment were not associated with testing.'

tients and clinic staff members were told that all methadone patients are AIDS risk group members, irrespective of whether they currently use drugs, and that taking the test should not be interpreted by anyone as an admission of current negative behavior.

Study staff members recruited patients, first for AIDS education, and subsequently for HIV-ab testing, during the patients' wait in line for medication. A poster and flyers were placed in the waiting area, and regular clinic staff members were prepared to explain each phase of the study to interested patients.

Sources of data. Patients who signed up for AIDS education were given a self-administered questionnaire 2 weeks prior to the class, to be completed and brought to the session. A study researcher was available at the clinic to help patients with language or literacy problems in completing the questionnaire. The questionnaire consisted of simple multiple-choice questions pertaining to the patient's background characteristics, knowledge of AIDS, attitudes about AIDS, and current AIDS risk-related behavior, such as intravenous drug use and unsafe sex practices.

A followup questionnaire similar to the first was completed by the patients subsequent to blood drawing for HIV-ab testing, but before the test results were reported. The followup questionnaire asked those patients who did not choose testing about their reasons for declining, as well as about other factors that might have influenced their decision. Patients received an incentive payment of \$20 for completing the baseline questionnaire and \$15 for the followup. The questionnaire data were confidential. Patients were told that their answers would not be seen by their counselors or any other clinic personnel, and would have no effect on their treatment.

A second data source was confidential interview information from a random sample of patients at LIJ drawn in 1984 for an earlier research study (10). The interview information helped us to determine whether patients who participated in AIDS prevention differed from the overall clinic population. Demographic information compiled by clinic staff members indicated that the characteristics of the patient population had not changed significantly since 1984. Ethnographic data from study staff members' informal discussions with patients during the course of the project was used to supplement the quantitative analysis.

The steps in the analysis were

- to identify factors associated with participation in AIDS education
- to examine the question of whether participation was affected by offering HIV-ab testing as part of the prevention protocol, and
- to identify, for those patients who were motivated to participate in AIDS education, factors associated with choosing or choosing not to take the HIV-ab test.

Results

Participation in AIDS education. All 314 methadone patients enrolled at LIJ were offered the opportunity to participate in the AIDS prevention program. Although 136 patients signed up, only 85 (27 percent of the clinic census) actually attended an AIDS education class, the first phase of the prevention program. Although this level of participation in AIDS education may be considered acceptable, it is considerably lower than the participation rate for a research study conducted by the authors 3 years earlier at LIJ (10). At that time, 65 percent of a randomly selected sample of patients participated in a 2-hour research protocol, including an in-depth personal interview, for a \$20 incentive payment. Compared with our previous experience, the patients in our current study seemed unexpectedly reluctant to attend AIDS education classes, although they were conveniently scheduled and included incentives for completing research questionnaires. The reasons most frequently given by patients for not participating were that they didn't have time; or, because they were no longer using drugs, that they didn't need it; or, that they already knew what they had to do.

Such responses, which are typically encountered when attempting to involve methadone patients in

voluntary programmatic activities, may mask more complex reasons for avoidance behavior. Participation in AIDS prevention activities may be regarded by patients as stigmatizing, even within a methadone clinic. Patients no longer using drugs intravenously may have a false sense of security and may not be fully aware of the degree of risk they pose to their sexual partners, and, in the case of women, to their fetuses. Inadequate knowledge of potential sources of infection may lead patients to ignore the educational opportunities intended to inform them about how to protect themselves and others.

We examined the question of whether the involvement of outside researchers and clinicians affected the recruitment of patients for the AIDS prevention project. Methadone programs have experienced poor patient response to in-house offers of voluntary AIDS education. At LIJ, an AIDS seminar conducted by the clinic a year prior to the current study was attended by only five patients. Compared with such experiences, the current project apparently did well, having as many participants as it did in a limited period. There is no evidence that the involvement of external staff members was other than beneficial in recruiting patients.

Effects of HIV-ab testing. We examined whether the relatively low rate of participation in AIDS education might have been related to the fact that HIV-ab testing was offered as part of the prevention program. HIV-ab testing is a controversial aspect of AIDS prevention. Some patients expressed concern to us informally about the confidentiality of test results, and the possibility that if positive test results became known, they might be denied insurance, housing, or employment. Other patients questioned the value of knowing their HIV-ab status, insofar as it might not predict whether they would develop AIDS-related complex (ARC) or AIDS. Patients were told that they could participate in the prevention program without being tested, or that they could defer the decision about testing until after the AIDS education sessions.

To see whether the offer of HIV-ab testing affected participation in AIDS education, we compared participation rates at LIJ with the study's second experimental clinic (clinic 2), where voluntary testing was not part of the AIDS prevention protocol. The LIJ clinic and clinic 2 were similar in patient demographics. Patients were predominantly white, 50 to 60 percent were employed, their average age was in the early 30s, about 75 percent were men, and the average length of enrollment

Table 1. Characteristics of 85 patients in the prevention sample and 80 patients in the random sample

Characteristic	Prevention sample (percent)	Random sample (percent)
Sex: ¹		
Men.....	59	76
Women.....	41	24
Race:		
White	80	89
Nonwhite	20	11
Marital status:		
Never married	40	34
Married.....	33	42
Previously married ²	27	26
Mean age (years)	34.2	33.5
Employment:		
Full- and part-time.....	52	63
Unemployed	48	37
Months in program:		
1-11	15	25
12-23	13	18
24-35	14	14
36-47	6	5
48 or more ³	51	39
Drug injection, last 30 days ¹	28	13
Needle sharing, last 30 days	9	NA
Shooting gallery visit, last 30 days ..	8	NA

NOTE: Percentages may not add because of rounding.

¹ $P \leq$ than 0.05 (two-tailed).

² Separated, divorced, or widowed.

³ Category cannot be expanded.

NA is data not available.

was about 3 years. The major difference was that clinic 2 had an appreciable Hispanic enrollment, about 20 percent. (Clinic 2 patients were told that several of the teachers were bilingual.) At clinic 2, 95 out of 355 patients (27 percent) attended an AIDS education class. Although the identical participation rates at LIJ and clinic 2 were coincidental, the results suggest that offering voluntary HIV-ab testing did not discourage patients' participation in AIDS education, nor did testing appear to attract patients into the AIDS prevention program. (Hispanic patients in clinic 2 participated in education at the same rate as other groups.)

Correlates of participation in education. To help explain differential participation in the AIDS prevention program, the characteristics of LIJ patients attending AIDS education (the prevention sample) were compared with a random sample of LIJ patients selected in 1984 for an earlier research study, as described previously. Both data sets were based on self-reporting. Data for the prevention sample were obtained from the confidential pre-education patient questionnaires; the random sample data were obtained from confidential personal interviews.

Table 2. Reasons given by 38 patients for declining HIV antibody test

Reasons	Percent
1. I have enough problems without getting any more bad news	62
2. It doesn't do me any good to know the result	37
3. I think the results may fall into the wrong hands	37
4. I don't like having blood taken.....	34
5. I'm not sure I want to know if I'm carrying the AIDS virus	34
6. I am fearful of knowing the results of the test	32
7. I didn't have time to take the test.....	32
8. I felt I would just be a guinea pig	22
9. I was worried that the test result might get back to my counselor.....	14
10. I already had an AIDS antibody test somewhere else.....	5

NOTE: More than 1 reason could be given. Ten patients did not complete the questionnaire.

Table 1 shows those variables for which comparative information is available. There were no statistically significant differences between the samples in patient age, race, marital status, employment, and time enrolled in the methadone program ($P \geq 0.10$). Although a recent study found that older methadone patients and those enrolled longer were more compliant with treatment contracting (11), no such associations were found for participation in AIDS education. However, the two types of interventions differ considerably.

Women patients were over-represented in the prevention sample. We considered the possibility that this resulted from women's employment status, their plans to have children, or current IV drug use, but none of these variables was related to gender for the prevention sample. Possibly this finding reflects women's greater awareness and concern about their health, as previous studies of health behavior have suggested (12).

Table 1 indicates that members of the prevention sample were twice as likely as those of the comparison sample to have injected a drug (heroin or cocaine) within 30 days. (Only respondents who gave consistently affirmative answers on the IV drug use items were counted as IV drug users in the analysis.) The finding suggests that the offer of education attracted proportionately more patients at higher risk of contracting or transmitting AIDS because of their current drug using behavior. From the comparison sample data in table 1, we inferred that 41 of the total of 314 patients (13 percent) engaged in IV drug use at any given time. In contrast, 24 of the 85 patients (28 percent) attending AIDS education reported engaging in IV drug use. We estimated that about one-half of all

then-current IV drug users in the clinic (24 out of 41) participated in the project's AIDS education classes. (Although we are assuming the percent of IV drug users has remained the same, of course the IV drug users in 1984 and 1987 were not the same individuals.)

Our data indicate that involvement in the most risky drug-using behavior is not common in the prevention sample. As shown in table 1, only 9 percent reported sharing needles and 8 percent reported going to a shooting gallery within 30 days. Nevertheless, the fact that any patients were engaging in such behaviors is a matter of great concern.

Validity of self-reports. The previous analysis is based on patient self-reports of drug use made to researchers in confidence. Prevention project staff members expressed their independence and gave assurances that self-disclosures on the questionnaire would have no effect on respondents' clinic standings. Although no measure of illicit drug use reveals all use, self-reports from drug treatment clients obtained under conditions of confidentiality have been shown to be highly correlated with confidential research urinalyses (10,13).

No research urinalyses were conducted for the current study. However, the prevention and random sample clinic urinalysis records were checked to determine whether they would support the self-report findings. The urinalysis checks covered the same 30-day periods as the self-reports. Twenty-seven percent of the prevention sample tested positive at least once for illicit drugs versus 16 percent of the random sample. The direction of the difference tends to support the self-reports, although the difference is not statistically significant ($P=0.13$, two-tailed). However, this comparison involves all drug use, not only intravenous use, which cannot be uniquely identified by urinalysis.

Participation in HIV-ab testing. Patients who attended AIDS education had the opportunity to receive an HIV-ab test. Of 85 eligible patients, only 37 (44 percent) decided to take the test. Thus, the testing participation rate for the entire clinic was only 12 percent (37 out of 314).

We considered the possibility that the AIDS education classes themselves might have discouraged some patients from taking the HIV-ab test. The education gave patients reasons for and against testing. Patients' interest in taking the antibody test was asked on the baseline questionnaire completed prior to the education session. In response to the item, "I'd like to get an AIDS antibody test," 46

percent agreed, 17 percent disagreed, and 37 percent said they weren't sure. Of those agreeing, 69 percent went on to be tested, while only 29 percent of those disagreeing did so. Thus, actual choices made by patients generally followed their original intentions. Of those who weren't sure originally, however, only 19 percent chose to be tested. This may indicate that the education classes had an inhibiting effect on most of those who were initially undecided.

Reasons patients gave for not taking the HIV-ab test were determined on the second questionnaire, completed after blood specimens were collected. Eligible patients who declined testing were asked to agree or disagree with a set of possible reasons for their decision. The list was based on comments heard at various times from patients, clinic staff members, and others.

Table 2 shows the percentage of patients who agreed with each of 10 reasons for not taking the HIV-ab test (multiple answers could be given). The most frequent reason may be characterized as denial. Sixty-two percent of the participants indicated that they didn't want any more "bad news" (reason 1). Denial is indicated as well by the 34 percent who were not sure they wanted to know whether they were infected (reason 5). Several reasons were given by about one-third of the patients. They involved the perceived usefulness of the test (reason 2), concern about a possible breach of confidentiality and its consequences (reason 3), not liking have blood drawn (reason 4), not having time (reason 7), and fear of knowing the results (reason 6). Reasons 1, 2, 5, and 6 parallel closely the main reasons gay men give for not wishing to learn their test results (14).

The least frequent reasons for declining the test were feeling like a "guinea pig" (reason 8), fear that their counselor would find out (reason 9), and having been tested elsewhere (reason 10). Half of the patients gave three or more distinct reasons.

Correlates of participation in testing. We examined whether any of the following variables predicted the choice by patients in the prevention sample whether to take the HIV-ab test.

- sociodemographic characteristics (that is, age, sex, race, marital status, and employment)
- knowledge about AIDS and its transmission
- attitudes towards AIDS prevention
- high-risk drug-using and sexual behaviors, and
- treatment-related variables, such as time in treatment and perceptions of clinic staff members

Table 3. Variables correlated with taking the HIV antibody test (prevention sample)

Variable	Percent	Number
Age: ¹		
Younger than 35 years	35	52
35 years and older	58	33
Marital status: ¹		
Never married	29	34
Married	54	28
Previously married	52	23
Are you planning to have a baby?: ¹		
Yes	67	15
No or not sure	39	70
I'm worried some of my sexual partners could give me AIDS: ²		
Agree	60	30
Disagree or not sure	34	55
All former drug users should get an AIDS antibody test: ²		
Agree	54	48
Disagree or not sure	28	36
There is no good reason to have an AIDS antibody test: ²		
Agree or not sure	21	24
Disagree	50	58
My counselor didn't care if I took the antibody test or not: ¹		
Agree	25	16
Disagree or not sure	48	56

¹ $P \leq 0.10$ (2-tailed).

² $P \leq 0.05$ (2-tailed).

Several variables that were associated with participation in AIDS education were not associated with taking the HIV-ab test. Although women patients and patients who recently injected drugs were over-represented among those attending AIDS education, such patients were not more likely to choose testing. Knowledge about AIDS, sexual practices, and time in methadone treatment was not associated with testing ($P \geq 0.10$).

Several factors, however, were found to be significantly related to choosing HIV-ab testing. Table 3 shows that older patients were more likely than younger patients to take the antibody test. Patients who were ever married were more likely to take the test than single, never married patients. Although younger and never married patients were more likely to report high-risk sexual behavior (such as multiple partners, and IV drug using partners), the degree of sex-related risk did not independently predict choice of HIV-ab testing. Although older and married patients tended to have been in methadone treatment longer, time in treatment was not independently related to choice of testing.

We examined the question of whether ever married patients were likely to take the test simply because they were more likely to be older than

Table 4. Choice of HIV antibody test by marital status and age

Marital status	Younger than 35 years		35 years and older	
	Percent	Number	Percent	Number
Never married	20	25	56	9
Married or previously married ¹	48	27	58	24

¹ Includes separated, divorced, and widowed.

those never married. The relation of age, marital status, and taking the HIV-ab test is given in table 4. Table 4 shows that marital status does not affect the likelihood of choosing HIV-ab testing by patients older than 35 years. Among patients younger than 35 years, however, single, never married patients are much less likely to choose testing than married or previously married patients. Never married singles younger than 35 were the group least likely to take an HIV-ab test. Younger, single, never married patients could be those most prone to deny a potential health problem, and avoiding an HIV-ab test could be one manifestation. Moreover, assuming that the experience of marriage is associated with a greater sense of responsibility to others, patients who were ever married may perceive a greater obligation to determine whether they are HIV carriers. This interpretation is supported by previous research showing that married persons (who ranked high on a social affiliation index) are more likely to seek preventive health care (15).

Patients planning to have a baby were more likely to choose testing than patients without such plans (table 3). This appears to reflect patients' knowledge of the risk of perinatal HIV transmission. The relation holds for men as well as women patients.

Table 3 indicates that a patient's attitudes influence his or her decision to take the HIV-ab test. As would be expected, patients with negative or mixed attitudes toward the test were less likely to choose testing than those with positive attitudes. Patients who believed that there was "no good reason to have an AIDS antibody test," as well as those who opposed the idea that "all former drug users should get an AIDS antibody test," were less likely to take the test than those who held positive beliefs about the test's usefulness. Patients who were worried that they might contract AIDS from some of their sexual partners were more likely to take the test than those who were not anxious about sexual transmission.

We examined the question of whether the choice of testing was affected by the general clinic climate, or the attitude of a patient's counselor towards antibody testing, at least as perceived by the patient. Patients' perceptions of staff members' general attitudes toward testing were not associated with patients' decisions to take the test. Most patients (56 percent) were "not sure" whether "most staff at the program would like patients to take the AIDS antibody test." However, patients' beliefs about whether their own counselors were interested in them taking the test were related to testing. As shown in table 3, patients who believed that their counselors "didn't care" whether or not they took the test were less likely to choose testing than other patients. Conversely, patients who were encouraged by their counselors to be tested tended to choose testing more often than other patients (63 percent versus 39 percent), although this relation was not statistically significant because few patients (11) reported active encouragement. The identity of the counselor was not related to patients' decisions to be tested.

Discussion and Recommendations

An AIDS prevention program cannot be effective unless the interventions can be delivered to risk group members. In this study, about three-quarters of the methadone patients could not be recruited for AIDS education, even with modest inducements. The data suggest that patients were exhibiting avoidance behavior beyond that which normally would be expected. The stigma attached to the subject of AIDS, fatalism about their own risk status, and a false sense of security among those no longer injecting drugs probably contributed to a relatively low level of patient participation in AIDS education. However, offering HIV-ab testing seemed neither to discourage nor encourage participation in education.

One encouraging sign is that the project was reasonably effective in recruiting patients at highest risk for AIDS because of their current drug using behavior. We estimated that about one-half of those still using drugs intravenously attended an AIDS education class. Unfortunately, since the comparison sample data did not include sexual behavior, the study could not determine whether the project participants were at above-average risk because of their sexual practices.

Because providing effective AIDS education to methadone patients is important, methadone programs need to require attendance or to offer

patients incentives to attend. We recommend a consideration of adding the requirement to attend AIDS education to the criteria used in determining reductions in patients' medication pick-up days, as a positive incentive for participation. Terminating a patient for noncompliance would be senseless, however, since retaining addicts in treatment is essential to AIDS prevention. Although those currently using drugs intravenously were more likely to attend AIDS education, they were as reluctant as others to learn their HIV-ab status. Only 12 percent of the clinic population was tested in our study.

There was some evidence that the AIDS education classes, which presented the pros and cons of testing for persons at risk, might have dissuaded initially undecided patients from choosing to be tested. Conversely, some patients told us they would have liked to volunteer for testing if AIDS education had not been a prerequisite. There was higher participation in voluntary testing (38 percent) in the New Bedford methadone clinic, where prior AIDS education was voluntary, and where few patients attended the education classes (8). Individual pre-test counseling was provided at the New Bedford clinic as well as at LIJ, but our view is that patients should receive more comprehensive AIDS education before being asked to decide on HIV-ab testing. In considering the difference in HIV-ab testing rates between the New Bedford and LIJ clinics, it should be noted that the former had testing available for nearly a year, while at LIJ testing was available only for a 2-week period.

Voluntary HIV-ab testing rates were much lower both at LIJ and New Bedford than at the Minneapolis V.A. clinic, where almost all patients agreed to be tested (9). Some possible reasons may be that our study found that a counselor's attitude toward testing for an individual patient (as perceived by that patient) was related to the patient's decision to be tested. The counselor of the 46 patients at the Minneapolis clinic apparently believed testing was worthwhile and supported it. At LIJ, counselors' attitudes toward clinic-wide testing were mixed. There were legitimate concerns about possibly adverse patient reactions to seropositive results and the ability of counselors to manage large numbers of seropositive patients. The project asked counselors to make individual decisions about encouraging or discouraging testing, which they reported doing. Consequently, differences in counselors' attitudes toward the advisability of testing may help explain the differences in participation rates between the Minneapolis and LIJ clinics.

The most frequent reason for declining testing, however, was to avoid confirming and emotionally confronting one's AIDS risk status. Working through the realization of risk may lead to productive behavioral change.'

Another reason for differences in the testing rates may be that methadone patients in Minnesota are less ambivalent about testing than patients in higher AIDS incidence areas, because they have far less personal experience with ARC and AIDS illnesses and deaths among their peers and in the immediate community. That is, they may have less expectation of a seropositive test result, and the health implications of a seropositive result may be less emotionally salient for them, than for patients in New York or Massachusetts.

The low rate of participation in voluntary HIV-ab testing for methadone patients in this study should not be interpreted as supporting mandatory or routine testing, as, for instance, part of a clinic's admission or annual physical examinations. The usefulness of testing present or former IV drug users for the purpose of AIDS prevention has not yet been determined. (Our continuing study is one of several examining this issue.)

However, even if voluntary testing were to prove beneficial, attempting to generalize such findings to mandatory testing may be unjustified for several reasons. It might not be prudent to test persons who, if they had a choice, would avoid testing; this could precipitate emotional reactions or conduct harmful to the person or to others. Required testing could discourage some addicts from entering or remaining in treatment, a highly undesirable and unproductive result. Finally, patients' resentment about required testing could possibly cancel the potential benefits of testing.

On the basis of our findings, it appears that HIV-ab testing has only a limited role in a clinic-based AIDS prevention program. Many patients were not convinced of the utility of being tested and were concerned about the consequences of possible breaches of confidentiality. The most frequent reason for declining testing, however, was to avoid confirming and emotionally confronting one's AIDS risk status. Working through the realization of risk may lead to productive behavioral change. Yet, it is understandable that most patients were ambivalent about testing and their

decisions must be respected. Nevertheless, voluntary HIV-ab testing may prove useful for those patients who desire it. Such patients believe that the results can help motivate them to avoid further exposure to HIV and to avoid infecting others.

Our conclusions must be qualified by being based on experiences in one predominantly white methadone clinic, although it is located in the high seroprevalence New York City area. Similar research in predominantly minority, inner-city methadone clinics is urgently needed. Efforts must continue to involve present and former IV drug users in AIDS prevention interventions.

Over the longer term, counseling, nursing, and medical staff members in methadone programs need to create an increasingly favorable atmosphere for addressing AIDS risk reduction with their patients. AIDS education can be offered through formal classes, during individual counseling, in medical examinations, and in group therapy sessions. Additional emphasis must be placed on engaging male patients, younger patients, and never married patients in AIDS prevention. Any clinic-based AIDS prevention program, however, may be hindered by societal attitudes towards AIDS, and by societal sanctions directed at AIDS risk group members.

A stronger medical rationale for HIV-ab testing may soon be available, should experimental drug therapies that are designed for asymptomatic, seropositive persons with immunosuppression prove to be beneficial. This would probably increase patients' willingness to be tested.

The outcome evaluation of our AIDS prevention program is in progress. In addition to AIDS education and HIV-ab testing, the program will include prevention-oriented peer support groups. Future papers are to report whether and to what extent the intervention components were effective in reducing AIDS risk-related drug-using and sexual behaviors among methadone patients.

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